AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.   (Currently Amended) A vehicle state analyzing method, comprising:

a suspension/chassis setting step for setting an optimum <u>alignment state in a</u> suspension/chassis ~~for~~ <u>of</u> a vehicle;

~~a first~~ <u>an initialize mode</u> measuring step ~~for measuring a lateral force in the vehicle by running the vehicle which is set~~ <u>in which a lateral force is measured, by using a force sensor for detecting input of force from a wheel to a vehicle body, when the vehicle which is set is run</u> on a road surface as reference under a predetermined ~~condition with using a force sensor which detects input of force from a wheel to a vehicle body, and measuring fluctuation or fluctuation rate of the lateral force~~, <u>and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured</u>;

a ~~second~~ <u>monitor mode</u> measuring step ~~for measuring a lateral force in the vehicle by running the vehicle thereafter~~ <u>in which the lateral force is measured, by using the force sensor, when the vehicle thereafter is run</u> on a road surface ~~with using the force sensor, and measuring fluctuation or fluctuation rate of the lateral force~~, <u>and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured</u>; and

~~a comparing and computing step for comparing and computing of the measured value obtained at the first measuring step and the measured value obtained at the second measuring step~~<u>an analyzing step in which change of the alignment state of the vehicle is analyzed on the basis of ratio of the deviation obtained at the monitor mode measuring step with respect to the deviation obtained at the initialize mode measuring step</u>.

2.   (Currently Amended): The vehicle state analyzing method of claim 1, wherein the deviation of fluctuation or ~~the~~ fluctuation rate of the lateral force is measured when normal running of the vehicle.

3.   (Currently Amended): A vehicle state analyzing system for analyzing state of a vehicle having wheels, comprising:

measuring means, provided in the vehicle, for measuring deviation of fluctuation or fluctuation rate of the lateral force inputted to the vehicle through the wheel when the vehicle is run on a road surface; and

computing means for computing time dependent change of data measured by the measuring means.

4.   (Currently Amended): A vehicle state analyzing system for analyzing state of a vehicle having wheels, comprising;

a force sensor for detecting input of force from the wheel to ~~the~~ a vehicle body;

~~first~~ initialize mode memory means ~~for storing information related to output of~~ in which a lateral force is measured, by using the force sensor ~~when the vehicle which is set to be an optimum alignment state is run on a road surface as reference under a predetermined condition as a reference value~~ for detecting input of force from the wheel to the vehicle body, when the vehicle which is set to an optimum alignment state is run on a road surface as reference under a predetermined condition and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

~~second~~ monitor mode memory means ~~for storing information related to output of the force sensor when normal running of the vehicle~~ in which the lateral force is measured, by using the force sensor, when the vehicle thereafter is run on the road surface and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

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analyzing computation means ~~for monitoring the output of the force sensor, and, on the basis of at least the information stored in the first memory means and the information stored in the second memory means, for analyzing the state of the vehicle~~in which change of the alignment state of the vehicle is analyzed on the basis of ratio of the deviation stored in the monitor mode memory means with respect to thedeviation stored in the initialize mode memory means; and

information output means for outputting at least one of the information stored in the ~~first~~initialize mode memory means, the information stored in the ~~second~~monitor mode memory means, and the result of analysis obtained by the analyzing computation means.

5.   (Currently Amended): The vehicle state analyzing system of claim 4, wherein the force sensor is provided in the vehicle,

the ~~first~~initialize mode memory means, the ~~second~~monitor mode memory means, the analyzing computation means, and the information output means are provided outside the vehicle.

6.   (cancelled)

7.   (Currently Amended): A vehicle on which ~~the~~a vehicle state analyzing system ~~of claim 4 is mounted~~for analyzing state of a vehicle having wheel comprising:

a force sensor for detecting input of force from the wheel to a vehicle body;

initialize mode memory means in which a lateral force is measured, by using the force sensor for detecting input of force from the wheel to the vehicle body, when the vehicle which is set to an optimum alignment state is run on a road surface as reference under a predetermined condition and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

monitor mode memory means in which the lateral force is measured, by using the force sensor, when the vehicle thereafter is run on the road surface and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored:

analyzing computation means in which change of the alignment state of the vehicle is, analyzed on the basis of ratio of the deviation stored in the monitor mode memory means with respect to the deviation stored in the initialize mode memory means; and

information output means for outputting at least one of information stored in the initialize mode memory means, information stored in the monitor mode memory means, and the result of analysis obtained by the analyzing computation means, is mounted.

8.   (Currently Amended): A-The vehicle of claim 7 further comprising the ;

~~the vehicle state analyzing system of claim 4; and~~

display means for displaying the state of the vehicle obtained by the analyzing computation means.

9.   (Currently Amended): A-The vehicle of claim 7 further comprising;

~~the vehicle state analyzing system of claim 4; and~~

adjustment means for automatically adjusting alignment of a suspension on the basis of the state of the vehicle analyzed by the analyzing computation means.

10.   (Currently Amended): A vehicle state management system, comprising:

a the vehicle state analyzing system ~~of claim 4~~ for analyzing state of a vehicle having wheels, comprising:

a force sensor for detecting input of force from the wheel to a vehicle body;

initialize mode memory means in which a lateral force is measured, by using the force sensor for detecting input of force from the wheel to the vehicle body, when the vehicle which is set to an optimum alignment state is run on a road surface as reference under a predetermined condition and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

monitor mode memory means in which the lateral force is measured, by using the force sensor, when the vehicle thereafter is run on the road surface and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

analyzing computation means in which change of the alignment state of the vehicle is analyzed on the basis of ratio of the deviation stored in the monitor mode memory means with respect to the deviation stored in the initialize mode memory means; and

information output means for outputting at least one of information stored in the initialize mode memory means, information stored in the monitor mode memory means, and the result of analysis obtained by the analyzing computation means; and

a vehicle testing apparatus having a road surface for running which causes the wheels to be rotated, detecting the state of the vehicle from outside, and being capable of storing the state of the vehicle detected from the outside and the state of the vehicle analyzed by the vehicle state analyzing system.